

REMARKS

The above amendment amends the specification to update references to related U.S. patent applications. No new matter is added.

Claims 1-34 were pending in the above-identified application when last examined and are amended as indicated above. The claim amendments clarify the claim language and are not intended to limit the scope of the claims, unless the claim language is expressly used in the following remarks to distinguish over the art cited.

Claims 1-3, 8, 9, 11-13, 16, and 17 were rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Pat. No. 4,307,934 (Palmer) or U.S. Pat. No. 5,981,945 (Spaeth). Applicants respectfully traverse the rejection.

Independent claim 1 distinguishes over Palmer and Spaeth at least by reciting, “an alignment post attached to the cap, wherein the alignment post is glued to a surface of the cap through which an optical path to the sensor passes.”

Palmer is directed to packaged fiber optic modules, and Fig. 2 of Palmer illustrates a module including an electronic assembly. The Examiner identifies housing 54 as corresponding to the alignment post recited in claim 1. However, beginning at column 3, line 57, Palmer states “The electronic assembly 25 with the window 34 and its can 32, the focusing lens 44 and the fiber bundle 46 are all disposed in a housing 54 which is preferably of metal to minimize electrical interference with the electronic package 25. The housing 54 includes a relatively large diameter cylindrical portion 55 for enclosing the window can 32 and the electronic assembly 25. ... The housing 54 then continues with a conical portion 57 surrounding the focusing lens 44 in its lens can 50. The rear or right-hand portion of the housing 54 consists of a sleeve 58 for surrounding the fiber bundle 46.” Palmer fails to indicate or suggest that housing 54 acts as an alignment post. Further, Palmer fails to suggest that housing 54 is “glued to a surface of the cap through which an optical path to the sensor passes” as now recited in claim 1.

Spaeth is similarly directed to systems including an optical transducer. Fig. 5 of Spaeth illustrates an embodiment of a transducer in a housing. Beginning at column 4, line 3, Spaeth describes this system as follows. “The transducers 11 shown in FIGS. 1 and 2 are inserted into a housing shown in FIG. 5 that has a base 14 and a cap 15. The transducer 11 is adjusted relative to a window 16 made in the cap 15 and is secured to the base 14. Abutting the window is a non-illustrated optical waveguide, which is joined to the housing by a coupling 20.” The Examiner identifies coupling 20 as corresponding to

the alignment post recited in Applicants' claim 1. However, Spaeth fails to suggest that coupling 20 acts as an alignment post, and instead Spaeth describes coupling 20 as a connecting structure. Further, Spaeth fails to suggest that coupling 20 is "glued to a surface of the cap through which an optical path to the sensor passes" as now recited in claim 1.

Claim 1 and claims 2, 3, 8, and 9, which depend from claim 1 are thus patentable over Palmer and Spaeth.

Claim 2 further distinguishes over Palmer and Spaeth by reciting, "a sleeve having a bore sized to accommodate the alignment post at a first end of the bore and an optical fiber connector at a second end of the bore." In particular, Palmer fails to suggest a sleeve having a bore sized to accommodate housing 54, which the Examiner indicated as corresponding to an alignment post. Similarly, Palmer fails to disclose or suggest a sleeve with a bore accommodating coupling 20.

Independent claim 11 distinguishes over Palmer and Spaeth at least by reciting, "a die including a sensor having a photosensitive area at a front face of the die, the die being attached to the sub-mount so that the front face of the die is adjacent to the sub-mount."

Palmer and Spaeth fail to disclose or suggest a die attached so that the front face of the die is adjacent to a sub-mount. Instead, Palmer and Spaeth suggest devices where the front surface is away from the sub-mount. For example, Fig. 2 of Palmer shows a bond wire connecting to a surface of a transducer 38, suggesting that the back surface (not the front surface) of transducer 38 is adjacent to the underlying sub-mount. Figs. 1 and 2 of Spaeth show a semiconductor component 6 such as a VCSEL having contacts on front and back surfaces. Spaeth beginning at column 3, line 12 states, "The metallizing 5 ... serves to supply current to the semiconductor component 6. A second contact is located on an upper surface of the semiconductor component." Neither Palmer nor Spaeth provide any indication of the front face of a die being adjacent to the sub-mount.

Claim 11 and claims 12, 13, 16, and 17, which depend from claim 11, are therefore patentable over Palmer and Spaeth.

For the above reasons, Applicants request reconsideration and withdrawal of this rejection under 35 U.S.C. § 102.

Claims 4, 6-7, 14, 15, and 19-24 were rejected under 35 U.S.C. § 102(b) as anticipated by Palmer. Applicants respectfully traverse the rejection.

Claims 4 and 6-7 depend from claim 1 and are patentable over Palmer for at least the reasons given above to show claim 1 is patentable over Palmer.

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Claim 4 further distinguishes over Palmer by reciting, “a lens formed on a back face of the die, the lens focusing on a photosensitive area of the sensor.” In regard to this element, the Examiner cited lens 42 shown in Fig. 2 of Palmer. However, as illustrated in Fig. 2, lens 42 is larger than and separated from the die containing transducer 38. Further, Palmer fails to suggest that lens 42 is on the back face of any die.

Claims 14 and 15 depend from claim 11 and are patentable over Palmer for at least the reasons given above to show claim 11 is patentable over Palmer.

Independent claim 19 distinguishes over Palmer at least by reciting, “a semiconductor sub-mount including an active circuit integrated into the semiconductor sub-mount; a die including a photosensor that is electrically connected to the active circuit; and a cap attached to the sub-mount so as to form a cavity enclosing the die.”

Palmer fails to disclose or suggest a semiconductor sub-mount. In regard to the sub-mount, the Examiner cites electronic assembly 25, which is illustrated in Fig. 2. However, Palmer beginning at column 2, line 56 describes, “The module of FIG. 2 includes an electronic assembly generally shown at 25. This may, for example, be a hybrid microelectronic assembly which may consist of a plurality of integrated chips. ... The electronic assembly includes an insulating plate 26, such as a suitable ceramic plate on which integrated chips and the like are mounted.” Palmer thus discloses a composite or assembly that operates as a sub-mount, but Palmer fails to suggest “a semiconductor sub-mount including an active circuit integrated into the semiconductor sub-mount” as recited in claim 19.

Claim 19 and claims 20-24, which depend from claim 19, are thus patentable over Palmer.

For the above reasons, Applicants request reconsideration and withdrawal of the rejection under 35 U.S.C. § 102.

Claim 5 was rejected under 35 U.S.C. § 103(a) as unpatentable over Spaeth. Applicants respectfully traverse the rejection.

Claim 5 depends from claim 1 and is patentable over Spaeth for at least the same reasons given above to show that claim 1 is patentable over Spaeth. Applicants therefore request reconsideration and withdrawal of the rejection under 35 U.S.C. § 103.

Claims 10, 18, and 25 were rejected under 35 U.S.C. § 103(a) as unpatentable over Palmer. Applicants respectfully traverse the rejection.

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Claims 10, 18, and 25 respectively depend from claims 1, 11, and 19 and are patentable over Palmer for at least the same reasons that their respective base claims are patentable over Palmer. Applicants therefore request reconsideration and withdrawal of this rejection under 35 U.S.C. § 103.

Claims 35-37 are added. New claims 35 and 36 depend from claim 19 and are patentable for at least the same reasons that claim 19 is patentable. New claim 37 depends from claim 1 and is patentable for at least the same reasons that claim 1 is patentable.

In summary, claims 1-34 were pending in the application. This response cancels non-elected claims 26-34, amends claims 1, 3, 4, and 11, and adds claims 35-37. For the above reasons, Applicants respectfully request allowance of the application including claims 1-25 and 35-37.

Please contact the undersigned attorney at (408) 927-6700 if there are any questions concerning the application or this document.

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Respectfully submitted,



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